



Richard R. Baldwin

Versatile System Designed By Baldwin

Interferometry System Measures Size, Sphericity

Richard R. Baldwin, an engineer in Dimensional Inspection, has developed an interferometry system which can determine both the size and sphericity of concave spherical surfaces. The system has a field of view in excess of 110 degrees and can be used to measure any specularly reflective concave spherical segment two inches or less in radius. Expected accuracy of the interferometer is plus or minus five millionths of an inch for both size and sphericity. Repeatability is accurate to within plus or minus one millionth of an inch.

After a thorough evaluation, the interferometer will be modified to accept spherical segments of a larger radius that are suitable for numerically controlled tool or gage certification.

Details of the system are contained in a technical report recently published by Y-12 . . . one of the facilities operated by the Nuclear Division, Union Carbide Corporation for the U.S. Atomic Energy Commission. The report, Y-1568, "A Spherical Interferometer with White-Light Compensation," is available from the Clearinghouse for Federal Scientific and Technical Information, National Bureau of Standards, U.S. Department of Commerce, Springfield, Virginia 22151.

ASTME Meeting Has Stock Expert

The Oak Ridge subsection of the American Society of Mechanical Engineers will hold its next meeting next Thursday, March 20. It will be at the Oak Ridge Country Club . . . a ladies'-night meeting, beginning at 6:30 p.m. with a social hour . . . dinner at 7:30 . . . and the program at 8:30.

Mrs. Gene DePersio, a registered Oak Ridge representative of Abbott, Proctor and Paine brokerage, will present a general discussion on investing in the stock market. A question and answer period will follow. Mrs. DePersio holds a degree in chemistry, attended the University of Tennessee School of Finance and the New York Institute of Finance. She and her husband, Dr. John DePersio are long time residents of Oak Ridge.

Reservations for the dinner are required by noon next Tuesday, March 18. The cost is \$3.70 per person. Reservations may be made through George Kidd, 3-3429; John Moyers, 3-7094; Lee Haack, 3-1581; or Grady Whitman, 3-5497.

Shares in American business will be given away as door prizes. Plan now to attend with your wife or your girl friend for an informative and interesting evening.

Thermal Neutron Scattering Is Physics Seminar Topic

R. M. Moon, ORNL Solid State Division, will lead this week's Physics Division seminar. His subject will be "Neutron Polarization Analysis: A New Technique in Thermal Neutron Scattering."

The seminar is set for tomorrow, Thursday, March 13, at 3:15 p.m. in the Central Auditorium of ORNL's 4500 building.

Y-12ers Active In UT Clinic Friday, Saturday

A Y-12er, Robert P. Lucke is acting as general chairman for the 10th Annual Quality Control Clinic set at the University of Tennessee this week. The clinic is sponsored by the American Society for Quality Control — Morristown, Northeast Tennessee and Tennessee sections through the University of Tennessee College of Business Administration.



R. P. Lucke

Lucke, in Statistical Services, will moderate the luncheon session Friday, March 14. Another Y-12, Leon Brasel, also in Statistical Services, moderates a session Friday morning. Walter Hedge, ORGDP, moderates a session Saturday.

The two-day session is set Friday and Saturday, March 14, 15, at the University Center.

H. Alan Lasater, assistant professor of statistics at U.T., will give a paper Friday "Acceptance Sampling Concepts." Lasater is a former Y-12er.

Safety Awards Set For Distribution

Distribution of those handsome safety awards earned by Y-12ers will begin in the plant next Tuesday, March 18.

Details will follow in a plant bulletin and in next week's Y-12 Bulletin.



MILLIONS OF DOLLARS worth of silver is inspected above by D. A. Jennings, Maintenance Division, prior to its being cut for shipment back to the U. S. Treasury Department. The magnet coils were removed from the old calutrons used in the early days of Oak Ridge, part of the 14,700 tons of the precious metal that was borrowed from the nation's coffers.

Technical Lists Ducat-Salesmen

The Technical Division has staked claim on the night of Saturday, March 29 for a wing-ding! The scene will be Beaver Brook Country Club, Knoxville . . . or Knox County (a map is provided with each ticket!)

The cost? \$5.50 per person . . . dinner, dancing . . . the works. Festivities begin at 7 p.m. with free set-ups . . . banquet at 7:30 buffet style (two meats, five vegetables, seven salads, two desserts, and choice of liquids). Dancing begins at 9 p.m.

A change in orchestras sees Alan Atkin now playing for the big dance.

Larry DeRoos, ticket sales chairman, will sell in Building 9215; aided and assisted by Ruby McCloud, 9704-2; Wilma Curtis, 9201-1; Caroline Shelling, 9215; Edna Kennedy, 9204-4; Betty Jo Kesterson, 9980; Jim Disney, Mary Ann Wright, 9711-1; Dot Woullard, 9215; Jack Gresham, 9212; Kay F. Doyle and Mildred Morris, 9215; R. S. Liets, 9273-11A; Alan Christman and Dan Morgan, 9706-1; Joe Stewart, Stan Cole and Marlin Dill, 9995; and Katie Sells, 9203.

Technical says they are limiting ticket sales to 220 . . . and you'd better buy now, and be there later!

SILENT PARTNERS

A lot of wives talk to themselves and don't know it. They think their husbands are listening most of the time!

Y-12 Returns 'Borrowed' Silver To Treasury Department

Approximately 2,145 tons of silver worth some \$124 million at the current market price have been returned from Y-12 to the United States Treasury.

The silver was part of a total of 14,700 tons of the precious metal, then worth more than \$400 million, that was borrowed from the Treasury in the early 1940's. The silver substituted for war-scarce copper in electrical conductors at Oak Ridge — wartime headquarters for the historic Manhattan Project. The conductors were part of the electromagnetic process used for the enrichment of uranium in the isotope 235.

At one time the total silver held at Y-12, if converted to silver dollars laid on edge, would have extended from New York to Chicago.

Y-12 is one of four facilities operated for the U.S. Atomic Energy Commission by the Nuclear Division of Union Carbide Corporation.

Nearly 12,500 tons of silver previously were returned to the Treasury in a series of shipments during the late 1940's and early 1950's. The latest shipments leave a balance of only about 70 tons at Oak Ridge and this will be returned soon.

'Defense' Stockpile

The silver returned will not be used in coinage or sold to bidders by the Treasury Department since it is part of the national defense stockpile under legislation enacted in 1967.

Silver has the highest electric

conductivity of any natural substance. It is this property which permitted its substitution for copper in bus bars and windings for huge magnets as part of devices called "calutrons" in which U-235 was separated from other uranium isotopes. Bus bars are assemblies of conductors supported on insulators.

Procurement of the large quantities of silver during the war was the responsibility of the Department of the Army, which was in charge of the overall Manhattan Project. The Army secured an agreement with the Treasury whereby the 14,700 tons of silver were made available immediately.

Resembled Doughnuts

The first shipment of silver bullion was made from the Treasury's West Point depository in October, 1942, to the Defense Plan Corporation of Carteret, New Jersey, where the silver bars were cast as cylindrical billets. The billets were then extruded and rolled into strips measuring five-eighths of an inch thick, three inches wide, and about 40 feet long, by the Phelps Dodge Copper Products Company at Bayway, New Jersey. The Allis-Chalmers Company of Milwaukee wound the long strips, with suitable insulation around the steel plates of the magnet casings. The completed magnet units resembling 19-foot square doughnuts were sent to the project at Oak Ridge, then known as "the Clinton Engi-

Continued on Page 4

SAFETY SCOREBOARD

The Y-12 Plant Has Operated
107 Days Or
3,277,000 Man-Hours
(Unofficial Estimate)
Through March 9
Without A Disabling Injury
SAFETY AT HOME,
AT WORK, AT PLAY

The Bulletin

Published Weekly For The
Y-12 Employees Of
UNION CARBIDE
CORPORATION



NUCLEAR DIVISION

JAMES A. YOUNG Editor



American Association Industrial Editors

OFFICE

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Oak Ridge, Tenn. 37830
Telephone 3-7100



The Ides of March bode well for many Y-12ers, marking important dates with Union Carbide Corporation. Congratulations.

25 YEARS

Oscar M. Blackwell Jr., Utilities Administration, March 13.

Dora D. Bagwell, ORNL Chemical Services, March 14.

Verney D. Sharp, Production Assay, March 16.

Charles P. Coughlen, Metallurgical Development, March 16.

20 YEARS

De'll C. Reed, Buildings, Grounds and Maintenance Shops, March 18.

15 YEARS

Edwin A. Reed, Alpha Five Machine Shop, March 12.

Jesse L. Donahue, Dimensional Inspection, March 12.

James C. Cate, 9215 Rolling, March 12.

Jesse Massengill, General Expediting and Auxiliary Services, March 12.

John L. Brown, Dispatching Department, March 12.

Marsie Neal, Stores Department, March 15.

Arthur O. Roberts Jr., Alpha Five Machine Shop, March 15.

Edward L. Armstrong Sr., General Field Shops, March 15.

John M. Sinclair, Buildings, Grounds and Maintenance Shops, March 15.

Velky D. Boyd, Statistical Services, March 16.

James C. Chamblee, General Machine Shop, March 16.

Charles F. Phillips, Receiving Department, March 17.

Thomas W. Bailey, Alpha Five Machine Shop, March 17.

Donnie A. Mingis, Dimensional Inspection, March 17.

Gerald W. Holcombe, Special Production Scheduling and Coordination, March 17.

James F. Paschall, Stores Department, March 17.

Doris Y. Shell, Central Employment, March 17.

Edward S. Heath, Dimensional Inspection, March 18.

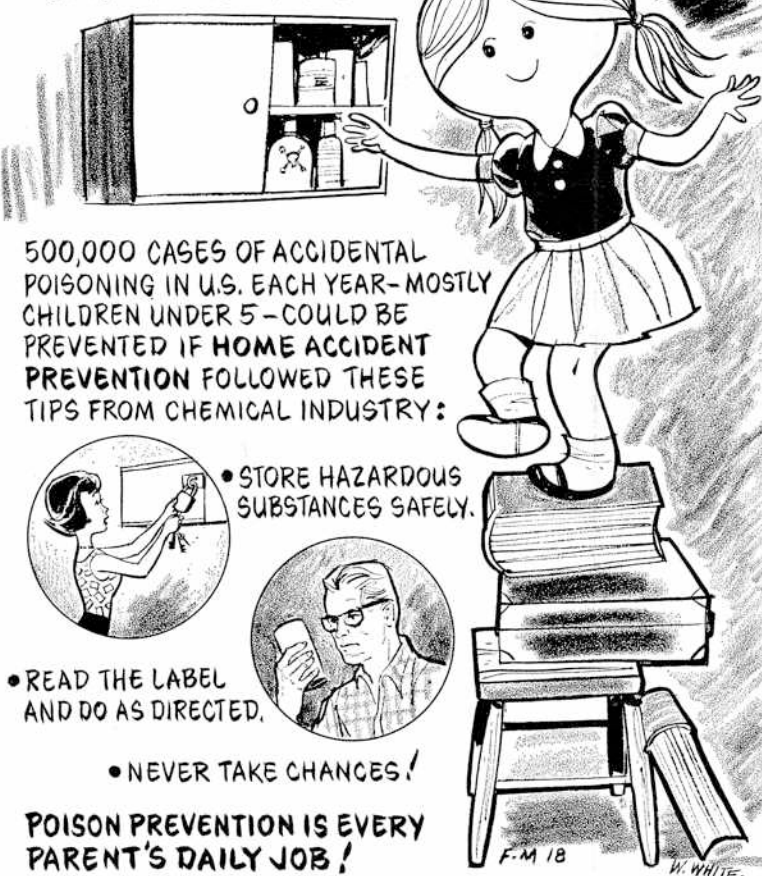
Billie McGregor, Beta Two Shop, March 18.

Watch Turning Left Into Lots At Rush Hour

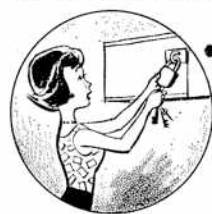
There are still a few women drivers turning into Central and North Portal between the hours of 4:30 and 5 p.m. Not only are you violating the road signs, dear ladies, you are endangering your life . . . as well as the lives of others when you turn (left) into the lots during the afternoon rush hours. (One of the autos even has a bumper sticker on it reading: Support your local police.) How about supporting your local laws?

Fact of the Matter is... by W. White

ON-JOB SAFETY CAN BE TAKEN HOME!



500,000 CASES OF ACCIDENTAL POISONING IN U.S. EACH YEAR—MOSTLY CHILDREN UNDER 5—COULD BE PREVENTED IF HOME ACCIDENT PREVENTION FOLLOWED THESE TIPS FROM CHEMICAL INDUSTRY:



• READ THE LABEL AND DO AS DIRECTED.



• NEVER TAKE CHANCES!

POISON PREVENTION IS EVERY PARENT'S DAILY JOB!

Poison Control Week

Let's Stop This Human Sacrifice!

The 2,500 people—mostly children under age five—who died in this country last year from accidental poisoning were virtually all needless sacrifices to the carelessness of others. So were the 497,500 cases of non-lethal poisoning.

Let's stop this human sacrifice!

Back in 1962, the nation took cognizance of the problem when President Kennedy proclaimed the first National Poison Prevention Week. The seventh such annual observance takes place this year next week, March 17-23. Medical authorities, realizing the destruction potential that must accompany the ever-increasing number of useful household products, use this special week to emphasize a simple but effective poison prevention program. Many of their suggestions might sound like common sense to enlightened parents — yet many of those same parents haven't gotten around to effecting them. They include:

- When using any potentially toxic product, or any medicine, read the label when you take it from storage, again just before using it, and a third time as you return it to storage.

- Periodically, flush all outdated medicines down the drain, then rinse and dispose of the bottles.

- Never leave liquid detergents, lighter fluid, paint thinners or turpentine in glasses or soft-drink bottles. Your children have learned—from you—to associate these containers with drinking.

- Plan the storage of your household cleaning products according to the age of your children. By the time a baby can crawl, he can easily get into that space beneath your kitchen sink, and help himself to the floor wax, household cleaner, or powder cleanser. By the age of two or three, he climbs like Tarzan, and the medicine chest or low kitchen cabinet is fair game.

- A baby's speed is often sur-

prising. In the time it takes a mother to answer the telephone or doorbell, he can swallow much of that can of polish she left open on the table.

- Don't cajole your child into taking medicine by calling it candy. It's an association children should not develop. And by the same token, avoid taking medicine yourself in front of the children. Imitation is natural, to them.

- Finally, should your child ingest a definite or even a possible poison, don't wait. Call the doctor immediately. He can either prescribe on-the-spot action or will call you back momentarily, after checking with the local poison-control center. Such poison data centers are located in many hospitals throughout the country, and provide instant antidote recommendations for ingestion of any of the more than 200,000 trade-named household products for sale in this country.

Employee's Wife Earns Salute For Editing Work

Elsie Staples Burkett, wife of T.A., in Personnel Relations, was commended recently by the Courier, the official publication of the Tennessee Historical Commission.

Describing the Rockwood Centennial celebration last year, the Courier pointed out the importance of the **Historical Review, Rockwood's Centennial Year, 1868-1969**, which was edited by Mrs. Burkett as an example of "a wealth of material on the history of Rockwood and Roane County."

The publication sells for \$5 and is available at the Rockwood Times office, Rockwood.

PERILS OF PAULINE

Kids that watch television constantly will surely go down in history . . . not to mention math, English, and science.

Major Chemicals Plant In Belgium Opens To Produce Ethylene Oxide

A major chemicals plant built by Union Carbide in Antwerp, Belgium, opened recently. Costing some \$38-million, the plant has taken only 20 months to construct. It will produce ethylene oxide and many of its derivatives. Together with the polyethylene plant at an existing site on the other side of the Scheldt River, it represents an investment of \$70-million.

The plant will bring Union Carbide's total output at Antwerp to 200,000 tons a year, making the complex one of the largest in Europe. It will supply important European users of chemicals and plastics with a variety of products that are key ingredients for hundreds of familiar items in the modern home and in industry. Best known to the consumer are such widely used items as plastic food bags and other containers, anti-freeze, detergents, synthetic fibers, paints, and antibiotics, as well as foams used in mattresses, insulated clothing, cushioning and rug underlays. The expanded facility will enable Union Carbide to participate in the ever-increasing market for these products throughout Europe today.

At the inauguration ceremony, guests were welcomed by officers of Union Carbide Europe, Inc.: James C. Malone, chairman; T. F. W. Jackson, president; and H. L. Reichart Jr., vice president. The management of Union Carbide Belgium N. V. was present to greet guests also, as well as managers of other Union Carbide companies in Europe. A. Vlerick, Belgian minister of regional economy, praised Union Carbide's long record of successful participation in Belgian industry. James C. Malone, thanking the minister, said: "This investment of \$70 million in a chemicals and plastics complex here expresses our faith in Europe's challenging expansion and our willingness to adjust to radically changing conditions. In making the investment, Union Carbide has taken a major step in the direction of integration as a local producer in the rapidly expanding European market. I would like to take this opportunity to mention that Union Car-

bide has been in Europe for over 40 years. Our manufacturing operations and marketing programs today extend from the North Sea to the Mediterranean, with plants producing not only chemicals and plastics but also ferroalloys, carbon and graphite products, industrial gases, and food casings. You can see that Union Carbide, traditionally, has been very much interested in trade in Europe. But we cannot look at Europe primarily as an export market as we did in earlier days. With expanded trade throughout the Common Market and European Free Trade Association areas, Europe is becoming more and more an integrated single market within its own boundaries — bringing about a new togetherness."

The new plant was engineered and constructed by Badger N. V. Located on the left bank of the Scheldt, it is designed to produce ethylene oxide by the direct oxidation of ethylene with oxygen. Ethylene is supplied through a pipeline under the river from the naphtha crackers operated by Petrochim N. V.; the oxygen is supplied from the plant's industrial gas unit. The ethylene oxide is to be used as an intermediate for the various derivatives units within the plant complex and for sale to outside customers. The plant occupies an area of about 85 acres, only about one fifth of the total area of the Union Carbide site. About 250 people will be employed initially. Great emphasis has been placed by Union Carbide on safety and from the start programs for training all personnel have been introduced.

ChemTech Is Planning St. Patrick's Dance

The Chemical Technology Division will stage its annual St. Patrick's Day Dance Friday, March 14. It is set for the American Legion Hall in Oak Ridge, and begins at 8 p.m. with refreshments . . . dancing from 9 p.m. to 1 a.m. with Alan Atkin and his band.

Dance tickets are available from section secretaries for \$2.75 each.



GRADY SMITH, BUILDINGS AND GROUNDS, says if you haven't used I-40 across the mountain from Newport to Maggie Valley, you ought to drive over that beautiful new highway. Smith caught this unusual photograph on the highway recently. He said the rainbow ended right there by the side of the road, but didn't state whether he found the pot 'o gold or not.

Tigers Tighten Reins On Classic

The Tigers tightened their lead in the Classic Alley race last week by out-bowling the Playboys by four points. Also posting four were the Eagles by the All Stars, and the Bumpers by the Screwballs.

All other victims were three-point losers... as the Pinbusters stayed in second place by sinking the Smelters, the Rippers tore by the Splinters, the Markers made it around the Rebels, the Cubs overcame the Has Beens and the Eightballs rolled by the Swingsters.

Perry Bullard, Pinbusters, pelted out highs in singles... 226 scratch, 265 handicap. Don Troutman, Markers, scored a 584 scratch series... and Bullard returned to the boards with a 672 handicap series.

The Markers marked best as a team... singles of 947 scratch, 1080 handicap... series of 2667 and 3066!

League standings follow:

Team	W	L
Tigers	32	12
Pinbusters	26	18
Eagles	25	19
Splinters	24	20
Bumpers	23½	20½
Rebels	23	21
Rippers	22½	21½
All Stars	22	22
Has Beens	22	22
Smelters	20	24
Markers	20	24
Cubs	19	25
Screwballs	19	25
Swingsters	16	28
Playboys	16	28
Eightballs	16	28

Toth, Smith Share Y Table Tennis Top

Roy Huddleston moved up in the X Table Tennis League last week with a three-game victory over Jerry Keyes, and a two-game win past Bill Motley.

X League standings follow:

Player	W	L
Lloyd Wyatt, Y-12	5	1
Roy Huddleston, Y-12	6	3
Herb Mook, ORNL	3	3
Jerry Keyes, Y-12	3	3
Bill Motley, Y-12	1	2
Jerry Goldstein	0	3
Steve Blum, ORNL	0	3
Ariko Hirose, ORNL	0	0

Action was slow in the Y League also... as Bob Smith won three games from Ed Gambill and Gordon Brewer did likewise.

Y League standings follow:

Player	W	L
Ken Toth, ORNL	5	1
Bob Smith, Y-12	5	1
Gordon Brewer, Y-12	7	2
Francois Kertesz, ORNL	3	6
Ed Gambill, Y-12	2	7
Joe Lewin, ORNL	2	7
Art Stewart, Y-12	0	0
Jerry Manning, K-25	0	0

SINGULAR CHOICE

Ask any woman whether she'd like to remain single. Chances are she'd rather knot.

Volleyball Drops Curtain On League

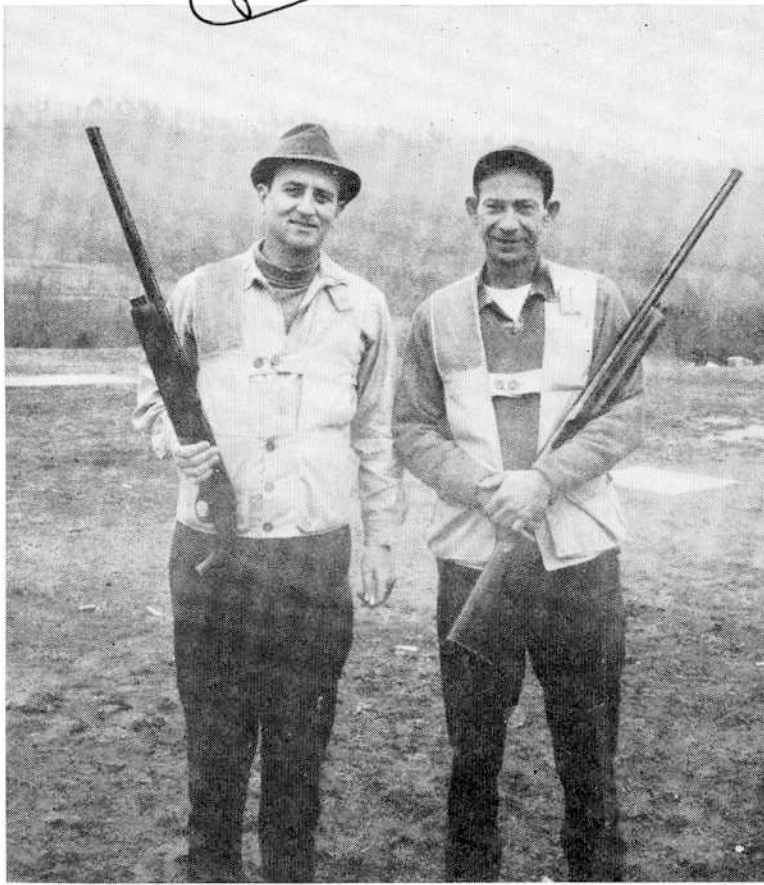
The Volleyball League wound up its regular business last week... serving the last balls in league action. A tournament (double elimination) begins tomorrow, Thursday, March 13 at the Oak Ridge High School Gymnasium.

In final play last week, on Court A, the Set-Ups sank the Naughts 15-9, 15-10, 15-4 and 15-4. Y-12 Beavers, league champions, polished off the K-25 Hawks 15-12, 15-8 and 15-9... the Hawks winning game three 15-13.

The Nemesis easily defeated the Metals & Ceramics team 15-2, 15-1, 15-4 and 15-6.

Meanwhile, on Court B the Ecobums edged by the ORAU team 15-3, 15-4, 15-7 and 15-11. The Defects dumped the Semanon team 15-8, 15-4 and 15-4 while the Semanon team took game two 15-13.

The Old Men wrote 'finis' to



FEBRUARY WINNERS IN SKEET competition among Y-12ers are seen above with their trusty muskets... Ben Etheridge and Joe Commolander. Etheridge placed first with a score of 49.200... and Commolander pushed in with a close second with a 49.040.

Big Leaders Drop C League Games

The three leading teams in the C Bowling League last week dropped points to lower-ranked teams. Grasping three from the Rollmasters were the Badgers, and the Royal Flush rang three up at the expense of the Sunflowers. The Big Five and HiLifers shared two.

The Rounders ran three by the Parbusters, and the Fireballs took three from the Jokers Five. The Invalids invaded property belonging to the Instrument Engineers for three points.

Jack Cowen, Instrument Engineers, put a 245 scratch game down! His 282 handicap single is high for the season, too. Bill Ladd, Rollmasters, rolled a 649 scratch series... and J. E. Cheek, Parbusters, broke into scoring with a 675 handicap series.

The Big Five boasted the best singles... 947 scratch, 1058 handicap. Their series of 2707 scratch was high also, and the HiLifers hit a 3042 handicap series.

League standings follow:

Team	W	L
Big Five	27½	12½
Rollmasters	29	15
Sunflowers	24½	19½
Rounders	24	20
Parbusters	23	21
Badgers	22	22
Fireballs	22	22
HiLifers	21½	22½
Jokers Five	19	21
Instrument Engineers	19	21
Invalids	14½	29½
Royal Flush	14	30

the play by belting the Beta 4 Astros 15-3, 15-4, 15-5 and 15-3.

Team	W	L
Beavers, Y-12	46	2
Nemesis, K-25	40	8
Ecobums, ORNL	35	13
Set-Ups, ORNL	33	15
Defects, ORNL	31	17
K-25 Hawks	30	18
Old Men, ORNL	30	18
Semanon, ORNL	24	24
K-25 Gashouse Gang	11	27
ORAU	10	38
Metals & Ceramics, ORNL	9	39
Beta 4 Astros, Y-12	3	45

No legacy is so rich as honesty.

Y-12ers Take All March Skeet Tops

Y-12ers swept the Skeet Tournament of March 2... as numbers one, two and three all 'came out of the valley.' D. L. "Bo" Glover knocked down first place firing a perfect 50.000. He was followed by Perry Bullard, 49.151, and B. Powers, 49.102.

(Fred Welfare also fired a perfect score, but was under penalty due to previous winnings.)

The next Skeet tournament is set for Sunday, April 13, at 1 p.m. at the Oak Ridge Sportsmen's Association. Carbide skeeters welcome other men along for the competition... say, the more the merrier.

If you've never fired at the little clay pigeons, there's instructions aplenty around for novices. That's Sunday, April 13.

Firer	H'Cap Score
R. Allstun, Y-12	47.774
K. Bahler, Y-12	48.939
J. Commolander, Y-12	47.878
Jack Case, Y-12	47.287
W. Weathersby, Y-12	48.080
C. Asmanes, Y-12	48.486
P. Bullard, Y-12	49.151
B. Powers, Y-12	49.102
C. Theobald, K-25	46.800
F. Welfare, ORNL*	50.000
B. Etheridge, Y-12	48.524
D. Glover, Y-12	50.000
L. Bray, Y-12	48.429
B. Searles, Y-12	47.440
V. Raen, K-25	47.120
T. Webber, Y-12	47.774
C. Brewster, Y-12	48.080

Recreation, Bulletin Offices Have Moved!

The Y-12 Bulletin and the Recreation Office have moved again! This time both offices are located in Building 9711-5, on the ground level of the Cafeteria... directly under the Conference Room.

The telephones remain the same... 3-7109, Recreation; 3-7100, Bulletin.

Come visit us in our new remodeled offices.

Wearin' O' Green!

Monday, March 17, is St. Patrick's Day. An estimated 20,000,000 citizens in this country are sons of the green!

Like the old saying goes, the "Lord must have loved the Irish... He certainly made enough of them!"

Beta 2 Miners Upset CC 69ers As Basketball Still In GBU Hands

The Carbide Trojans opened last week's Basketball League action by taking the Guess Who's 56 to 36. The game provided good sport for three quarters when the G.W.'s ran out of steam. Wallace Johnson turned in a strong board game for the Trojans. Tom Davis scored 22 points... Churchill Moore 17.

Ed Bailiff dropped 15 through the bucket for the losing squad.

The Computes edged by the Bums 45 to 40 in Monday's second thriller. The tremendous outside shooting by the Bums almost enabled them to pull off a big upset but the lack of rebounding strength proved their downfall as big Jim Treadwell and Nath Stonecipher completely dominated both boards.

They led scoring for the Computes... with 24 through for Jim... 12 for Nath.

Lowrey Underwood scored 18 for the Bums... Don Forrester 16.

In the final game Monday, the Bombers beat the Cobols 46 to 36... as the Cobols made a determined effort but the Bombers with Homer Tucker and Herm Thomas leading the way grabbed all the rebounds to overcome their effort.

Roy Nabors led the Bombers with 14... Buth McNalley scored 10 for the losing Cobols.

In Tuesday play the Bombers beat the Isotopes 53 to 31, dropping their bombs early as they smashed through the defenses. They two-platooned the I's and the scoring was fairly well distributed among all their players as they completely dominated the game's action. Bud Lewis scored 12 for the winning team.

Recreation



Monday, March 17

TABLE TENNIS: 7 p.m., Oak Ridge Wildcat's Den.

BOWLING: C League, 5:45 p.m., Ark Lanes.

PHYSICAL FITNESS (For Women): 7:30 p.m., Oak Ridge High School Girls' Gym.

BASKETBALL: Beginning 6:30 p.m. Oak Ridge High School Gym. Carbide Trojans vs. CC 69ers; Cavaliers vs. Biomed; Butter Balls vs. Bombers.

Tuesday, March 18

PISTOL LEAGUE: 6:15 p.m., Oak Ridge Sportsmen's Association.

PHYSICAL FITNESS (For Men): 7:30 p.m., Oak Ridge High School Gym.

BASKETBALL: Beginning 6:30 p.m. Oak Ridge High School Gym. Cobols vs. Quarks; Soul Men vs. Computes; Bums vs. GBU's.

Wednesday, March 19

BASKETBALL: Beginning 6:30 p.m. Oak Ridge High School Gym. Isotopes vs. Guess Who; Ail Stars vs. Bat Boys; Beta 2 Miners vs. Dagmops.

BOWLING: Mixed League, 8 p.m., Ark Lanes.

Thursday, March 20

BOWLING: Classic League, 5:45 p.m., Ark Lanes.

ARCHERY LEAGUE: 5, 6 and 7 p.m. Indoor Range, Oak Ridge Sportsmen's Association.

VOLLEYBALL TOURNAMENT: Beginning 6:30 p.m. Oak Ridge High School Gym. Court A and Court B.

Saturday, March 22

HI POWER RIFLE LEAGUE: 9 a.m. Oak Ridge Sportsmen's Association. First Firing.

Beta 2 Miners scored an upset victory over the CC 69ers 38 to 36... coming up about six inches short... but about two feet over in determination. Big John Scott hit the go ahead bucket with 33 seconds and calmly hit two foul shots with only 18 seconds left to seal the 69er's doom. The Miners got out-rebounded and Scott out-shot the 69ers' best. The game was never over four points difference with the Miners pressing the 69ers all the way.

The Butter Balls took a forfeit win from the Cavaliers Tuesday.

Wednesday's play began as the Bio Meds belted the Ail Stars 43 to 35. A fairly slow ball game, says the official scorer with the lead changing hands a few times. The overtime period saw the Bio Meds come to life and explode with 12 points to four for their opponents as Paul Shelby scored eight of the big ones in the overtime period. (His total was 18 for the game.)

Noel Cramer was big man for the Ail Stars with 16 through the nets.

The Quarks quietened the Dagmops 45 to 26, as Don Ferree warmed for the affray as he fired 22 points to lead the Quarks in an easy one. He scored 16 of the first 20 points for the Q's. The Mops fought valiantly but were just out-manned as the Quarks substituted freely.

The big GBU's, determined not to mar their record, demolished the Bat Boys Wednesday 83 to 33.

Good, bad and ugly were the words as they raced over the helpless, hapless Boys. They two-teamed them very effectively as they used the fast break to good advantage for the lay-up shots. Bob Waters and Ron Gamrot poured 18 through the buckets, only playing two quarters each.

Team	W	L
GBU's, Y-12	13	0
Computes, ORNL	11	1
CC 69ers, Y-12	10	2
Bombers, ORNL	10	4
Bio Meds, ORNL	9	5
Butter Balls, ORNL	9	5
Beta 2 Miners, Y-12	8	5
Cavaliers, ORNL	8	7
Ail Stars, Y-12	7	7
Isotopes, ORNL	7	7
Carbide Trojans, K-25	7	7
Quarks, Y-12	7	7
Bums, Y-12	6	9
Cobols, K-25	4	9
Guess Who, ORNL	2	10
Bat Boys, Y-12	2	12
Dag Mops, Y-12	2	13
Soul Men, ORNL	0	13

Twisters Widen Mixed Alley Lead

The Twisters lengthened their already long lead in the Mixed Bowling League last week with a four-point win over the Alley Cats. The Roses 'N Thorns took four from the Rollers, the McSprays blasted the Goofers... good for four also. The Hits & Misses hit the Mustangs for three.

C. C. Roberts, Hits & Misses, and R. W. Johnson, Alley Cats, tied for high singles... 188 scratch. John Ellison, McSprays, rolled a 231 handicap single. Ernest Ely, Mustangs, rolled a 519 scratch series... and C. C. Roberts rolled a 612 handicap series.

Alice Forseman, Mustangs, mustered a 183, 230 single game... and Nancy Garrison, Hits & Misses, hit a 466 scratch, 619 handicap series.

The Mustangs rolled high singles... 690 scratch, 819 handicap. The Twisters took highs in series with 1858 scratch... and the McSprays rolled a 2351 handicap series.

Team	W	L
Twisters	35	5
Goofers	26	14
Roses 'N Thorns	24	16
McSprays	22	18
Hits & Misses	21	19
Mustangs	14	26
Rollers	13	27
Alley Cats	5	35



R. L. McKAMEY, U. S. ATOMIC ENERGY COMMISSION, left, and D. A. Jennings, Y-12's Maintenance Department, check the packing of the \$124 million worth of silver recently returned by Y-12 to the U. S. Treasury Department.

Y-12's Borrowed Silver

Continued from Page 1
neer Works."

The heart of the electromagnetic system of uranium separation was the calutron unit, and the key to success of the calutron's operations was the magnetic field produced by the electricity surging through the silver coils of the large magnets.

Calutrons, so named because they were developed at the University of California, were able to separate the desired uranium 235 from the more abundant but non-fissionable uranium 238 isotope because of the slight differences in mass of the two isotopes.

Most Powerful Magnets

The magnets used at the electromagnetic plant were estimated to be 100 times larger than any magnets previously built. They were so powerful that the magnetic pull on the nails in workers' shoes made walking difficult. Since the magnets threatened to snatch wrenches from workmen's hands, complete kits of non-magnetic tools were produced.

Following the war, the electromagnetic separation system was made obsolete for the large-scale production of uranium enriched in U-235 by the development of the more efficient gaseous diffusion method now used in the production of enriched uranium. The rapidly developing nuclear power industry is the chief customer for enriched uranium today.

Calutron Units Dismantled

With the advent of gaseous diffusion, the AEC directed the dismantling of most of the calutron units, and made arrangements with the Treasury for the return of shipments.

The first step in the dismantling process involved draining the oil coolant and cutting the iron with torches. A 110-ton capacity crane then removed a piece of the casing to permit access to the ribbon coils. Each ribbon was removed singly and carried to a special turntable where it was unwound and straightened. The end strand of the coil was pulled into a shear which cut the silver at

two-foot intervals. The shearing operation was made more complex by the necessity to separate the impure silver in the welded areas from the rest of the ribbon.

The remaining calutrons at Y-12 are used by Oak Ridge National Laboratory in the specialized production of high purity isotopes of various elements.

Y-12's general plant Maintenance Department, headed by D. A. Jennings, was charged with the recovery responsibility. General foreman for the project was W. M. Williams Jr., assisted by W. M. Stephan, R. C. Pruden and M. D. Varnadore. Also assisting in the operation were T. W. Stinnet, H. B. Smith, C. G. McQueen, U. Gadsen, J. Lasley, J. Mitchell, W. J. Mitchell, W. J. Dawson, J. A. Burns, J. F. Blount, J. A. Andrews, T. C. Leffew, J. P. Raymer, J. F. Myers, R. S. Hopper, F. D. Brandburn and H. F. Breeding.

Holography Principles Topic At IEEE Meeting

The Oak Ridge Section of the Institute of Electrical and Electronics Engineers will have their monthly meeting tomorrow, Thursday, March 13. It will be at 7:30 p.m. in the Green Room of the Ridge Recreation Hall.

Speaker for the month will be George Werner, Physics Division engineer from Oak Ridge National Laboratory. His topic will be "Principles and Demonstration of Holography."

Werner graduate from the University of Nebraska with a BS degree in 1944 in electrical engineering. He joined Tennessee Eastman Company in Oak Ridge immediately after graduation. Except for a brief period working with mass spectroscopy he has worked almost entirely in optical engineering. In 1961 he started working with lasers with applications including holography.

All IEEE members and friends are invited to tomorrow's meeting.

Boating Course Again Is Offered

The Oak Ridge unit of the United States Power Squadron is again offering a Piloting Course free this Spring at the Oak Ridge High School.

The nine-lesson course begins Thursday, March 27, at Room A-237 in the Oak Ridge High School . . . from 7:30 until 9:30 p.m.

You don't have to register for this course . . . since it's free . . . just show up in Room A-237.

A firm foundation on which to build skill in piloting, seamanship and small boat handling is provided in the lectures. Lectures include such subjects as Safety Afloat, Seamanship, Small Boat Handling, Equipment and Government Regulations, Rules of the Road, Aids to Navigation, the Mariner's Compass, Charts and Piloting as well as River Piloting.

This free piloting course is a tradition with the U.S. Power Squadrons and is designed to be of equal value to all boatsmen.

Additional information on the course or the Power Squadron may be obtained from Harry Corey, extension 3-5889, or at his home telephone Clinton 457-0430.

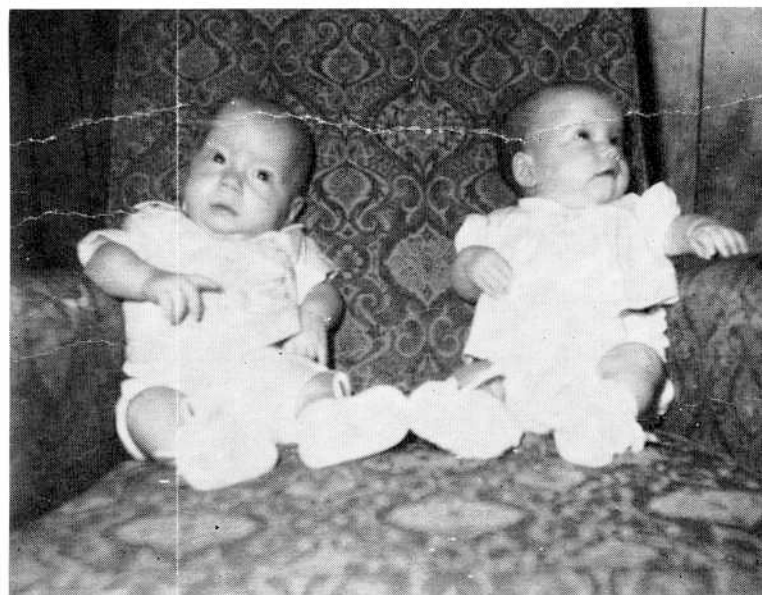


Riders wanted from Cumberland Estates, Karns, or Oak Ridge Highway, to any portal, straight day. Jim George, Plant phone 3-7277, home phone Knoxville 588-6474.

Don't Gamble With Your Life

Why gamble with your life? Do you take a chance with your life by not following rules designed for your safety, by being careless when other people and vehicles are on the move, by needlessly hurrying and not staying clear of overhead operations and moving machinery parts? See and know what you are doing at all times. Your life depends on job performance the "safe way."

Husband, calling wife to phone, "Dear, someone wants to listen to you!"



ENJOYING THEIR TWIN GRANDSON and granddaughter Michael and Michelle McMillans are the V. A. Mattox, Oliver Springs. (Mattox is in Buildings and Grounds.) Mrs. McMillan's husband, Ralph L. is an electronics technician, second class, who has just finished his third hitch in Vietnam . . . and is now stationed in the Philippines. The twins are about three months old in the above photo, which is being air-borne quickly to their proud papa.



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Mrs. Alvin Wiley Johnson



JOHNSON—FARMER

Miss Deborah Ann Farmer and Alvin Wiley Johnson were married Friday, January 31 in a double-ring ceremony at 6 p.m. in the West Village Christian Church. The Reverend Howard L. Chatter officiated.

The bride is the daughter of Mr. and Mrs. Fredrick Charles Shepherd, 618 Robertsville Road, Oak Ridge (the father is in Y-12's General Shop Inspection); and the groom is the son of Mr. and Mrs. Wiley S. Johnson, Albuquerque, New Mexico.

Given in marriage by her stepfather, the bride wore a floor length gown of white adagio crepe with lace forming yoke and long sleeves. The veil of illusion was held by a coronet of seed pearls and the bridal bouquet was a nosegay of white roses and carnations.

Mrs. Billie Mortimore, Oak Ridge, was matron of honor.

Serving the groom as best man was Billie Mortimore and ushers were Stanley Boyland and P. P. Hampton, both of Oak Ridge.

Sharon Shepherd, sister of the bride, played traditional wedding music at the organ.

A reception honored the couple at the church immediately after the rites. Misses Rebecca and Sharon Shepherd served, and Mrs. Stanley Boyland kept the bridal book.

The bride is a graduate of Del Norte High School, Albuquerque, and the groom attended the University of New Mexico.

The couple is at home at 424 Jefferson, N.E., Apartment 32, Albuquerque, New Mexico.

'Lion In Winter' Set Again On Week-End

Four more productions of "Lion in Winter" are set for Oak Ridge at the Oak Ridge Playhouse, Jackson Square. The beautiful dialogue among Henry II, his beautiful wife Eleanor, his three sons and Alais, will be seen again Thursday, Friday, Saturday and Sunday, March 13, 14, 15, and 16.

The drama encompasses a Christmas holiday in 1183 when the royal family discusses which son will marry Alais, sister of the king of France. Henry, himself loves Alais but must remain married to Eleanor because of her wealth.

The box office at the Playhouse is open from 10 a.m. through 5:30 p.m., and reservations may be made by telephoning Oak Ridge 483-1224.

OBESSE BEAST

Fat, too often, begins with hand to mouth exercises. Watch that over-eating! It could be the most dangerous thing you've ever done in your whole life.